

*β3Gal-T5*

```

-72 CCACCTCAGCCTCCTAGCATAAAACTAGACACATCCTCATGCTTTTGAGGTCTAATCATTGGATTTTGTTCCTTTCAG -1
1   M A F P K M R L M Y I C L L V L G A L C L Y Y S M N 26
1   ATGGCTTTCCCGAAGATGAGATTGATGTATATCTGCCTTCTGGTTCTGGGGGCTCTTTGTTTGTATTATAGCATGAAC 78
27  S L N P F K E Q S F V Y K K D G N F L K L P D T D C 52
79  AGTCTAAATCCTTTCAAAGAACAGTCCTTTGTTTACAAGAAAGACGGGAACCTTCCTTAAGCTCCCAGATACAGACTGC 156
53  R Q T P P F L V L L V T S S H K Q L A E R M A I R Q 78
157 AGGCAGACACCTCCCTTCCTCGTCTGCTGGTGACCTCATCCACAAACAGTTGGCTGAGCGCATGGCCATCCGGCAG 234
79  T W G K E R T V K G K Q L K T F F L L G T T S S A A 104
235 ACGTGGGGGAAAGAGAGGACGGTGAAGGGAAAGCAGCTGAAGACATTCTTCCTCCTGGGGACCACCAGCAGTGCAGCG 312
105 E T K E V D Q E S Q R H G D I I Q K D F L D V Y Y N* 130
313 GAAACAAAAGAGGTGGACCAGGAGAGCCAGCGACACGGGACATTATCCAGAAAGGATTTCCTAGACGTCTATTACAAT 390
131 L T L K T M M G I E W V H R F C P Q A A F V M K T D 156
391 CTGACCCTGAAGACCATGATGGGCATAGAATGGGTCCATCGCTTTTGTCTCCTCAGGCGGCGTTTGTGATGAAAACAGAC 468
157 S D M F I N V D Y L T E L L L K K N* R T T R F F T G 182
469 TCAGACATGTTTCATCAATGTTGACTATCTGACTGAACTGCTTCTGAAGAAAAACAGAACAAACCAGGTTTTTCACTGGC 546
183 F L K L N E F P I R Q P F S K W F V S K S E Y P W D 208
547 TTCTTGAACTCAATGAGTTTCCCATCAGGCAGCCATTTCAGCAAGTGGTTTGTCTAGTAATCTGAATATCCGTGGGAC 624
209 R Y P P F C S G T G Y V F S G D V A S Q V Y N* V S K 234
625 AGGTACCCACCATTCTGCTCCGGCACCGGCTACGTGTTTTCTGGCGACGTGGCGAGTCAGGTGTACAATGTCTCCAAG 702
235 S V P Y I K L E D V F V G L C L E R L N I R L E E L 260
703 AGCGTCCCATACATTAACTGGAAGACGTGTTTGTGGGGCTCTGCCTCGAAAGGCTGAACATCAGATTGGAGGAGCTC 780
261 H S Q P T F F P G G L R F S V C L F R R I V A C H F 286
781 CACTCCCAGCCGACCTTTTTTCCAGGGGGCTTACGCTTCTCGTATGCCTCTTCAGGAGGATCGTGGCCTGCCACTTC 858
287 I K P R T L L D Y W Q A L E N S R G E D C P P V * 310
859 ATCAAGCCTCGGACTCTCTTGACTACTGGCAGGCTCTAGAGAATTCCCGGGGGAGATTGTCCGCCTGTCTGA... 933

```

FIGURE 1

```

βGal-T1 : -----MASHVSLVYTVUCHASALVLSIT-----RP : 28
βGal-T2 : HLOVRRNICCFAMHTWNAKSLFTHLVCVLSVFLFAMLEFNNHMDLPCNAGFENPVYTFHGFSTKSETHSSLRNIMKETVQTLRP : 93
βGal-T3 : -----NAFPKMLHNYICULVLCALCLYFSMYS----- : 27
βGal-T4 : -----MASALHTVLPSMNSLHSLKWSLLLSLLSFFVMVYLSL----- : 39
βGal-T5 : -----MOLALFQ-----NLAJANLLVLMFLFQ----- : 25
βGal-T6 : -----TSSYTGSG-----KQ-----FSHLTVARKNFTYGNIR-----TRPINKSEFLINEPKCEK-----NIPELVITISTTHKEFDARQRIPEITGQDENNEKGI : 110
βGal-T7 : OTATNSNHTDLSHOCVTGLENTLSNMGSIYNKGTCHPNSVILKYLIHEPKCOB-----KSPBELLIAAACHGOIERPRAFOGNGESLAPGI : 183
βGal-T8 : -----LMR-----FKEOSFYKK-----DGNFLKLPD-----TDCRO-----TPBELLVLTSSHKOLARMAAFOTACNGERTWVK : 89
βGal-T9 : -----HYNVIERVWHFYFY-----EPIYRQDEHFTREHNSCSH-----ONDELVIDVTSHSDVKARQRIPTVTEGKESWNGY : 110
βGal-T10 : -----SG-----LGEELLSLSLALLPATASPCPLALPRLIPNQ-----EACSGCGAPDELLLVCTAENLNQBNREIRASMGGLREARGL : 103
βGal-T11 : -----VLNQNVESQIETNDIIVDEITSYHRTLLKLMGHRVATVCSKKNVHTPSISVMDNLIYNKIK----- : 193
βGal-T12 : QITRIEELLSIKLN-----G-YHQRAILESRQVNDIQOEYLDITYVRLTIKLMGHRVATVCSKKNVHTPSISVMDNLIYNKIK----- : 268
βGal-T13 : OLVEFELGTTSSA-----AETKEVDQSORIGDIQKDELAVYVYLTAKMGMGIEVYHRECEQAFVHTKISNEMINVDYITELIIM----- : 172
βGal-T14 : EVLFFELGQOEAKE-----DKMIALSLEDEHLLGDIQODELITYNLTAKLMAFETVETCEPHKVMHTCTVEINTCNIVKIDN----- : 196
βGal-T15 : RVQVLELGEPEPNAOHVPVNGSQGSDLASAAGDILQANRQDSIRRETTAKLUSGLNNAENKICPMANVLLVLDVYNVPELVSEVVLRCGRW : 196
βGal-T16 : -----PSTMPAR-----NYETGVVING-----CFIDVNSVWYVNDIETI-----DINWPPICSGCGTITSDVAVELLYXTSLHTLHM : 263
βGal-T17 : -----PDLPFRH-----NYETGYLMRGYAPENKOSWYHPPDLFI-----SENWPPICSGCGTITSDVAVELLYXTSLHTLHM : 339
βGal-T18 : -----KNRTTH-----FETGLKNEFEHPOPSNWFQSKSEI-----WQWPPICSGCGTITSDVAVELLYXTSLHTLHM : 241
βGal-T19 : -----LNUSEK-----FETGPLDONSVSGFYQTHISVOEII-----FVFPFPCSGCGTITSDVAVELLYXTSLHTLHM : 265
βGal-T20 : COVERSTERORENEQEGQVLSSEVPILLYLRVHVHVNVEETPCGRHVRVSEEQWHTMCPFPFVNSGCGTITSDVAVELLYXTSLHTLHM : 289
βGal-T21 : EDVAVGICIRGCTHCTGWHCTQ--N-SCEVYKKAHVSILRYARVHTVHIOISPEEMHRIWDMSSKKHLRQ----- : 326
βGal-T22 : EDVAVGICIRGCTHCTGWHCTQ--N-SCEVYKKAHVSILRYARVHTVHIOISPEEMHRIWDMSSKKHLRQ----- : 422
βGal-T23 : EDVAVGICIRGCTHCTGWHCTQ--N-SCEVYKKAHVSILRYARVHTVHIOISPEEMHRIWDMSSKKHLRQ----- : 310
βGal-T24 : EDVAVGICIRGCTHCTGWHCTQ--N-SCEVYKKAHVSILRYARVHTVHIOISPEEMHRIWDMSSKKHLRQ----- : 331
βGal-T25 : EDVAVGICIRGCTHCTGWHCTQ--N-SCEVYKKAHVSILRYARVHTVHIOISPEEMHRIWDMSSKKHLRQ----- : 378

```

FIGURE 2

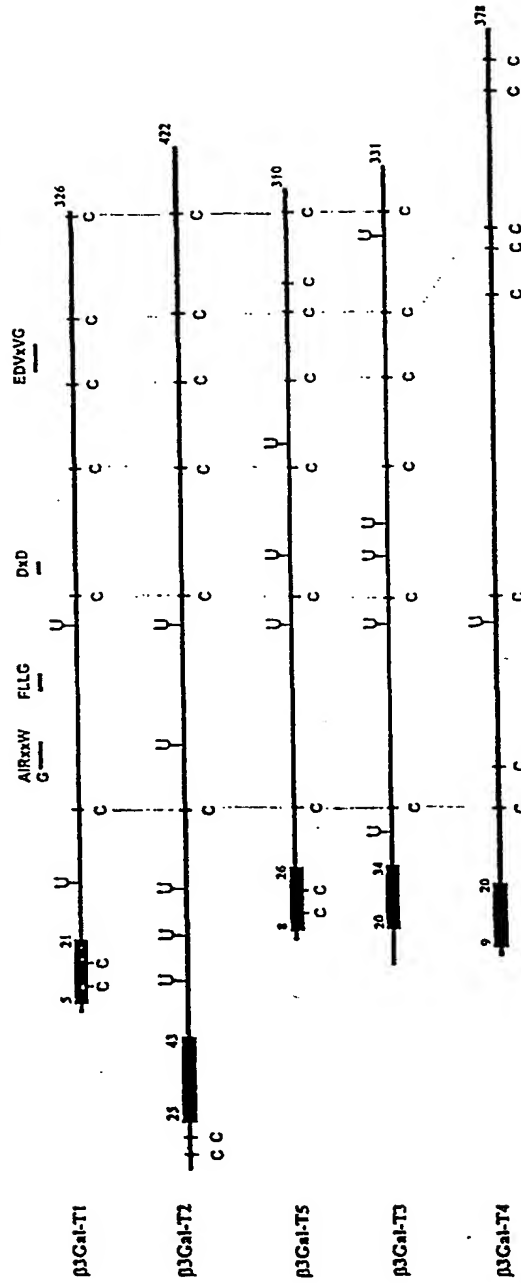


FIGURE 3

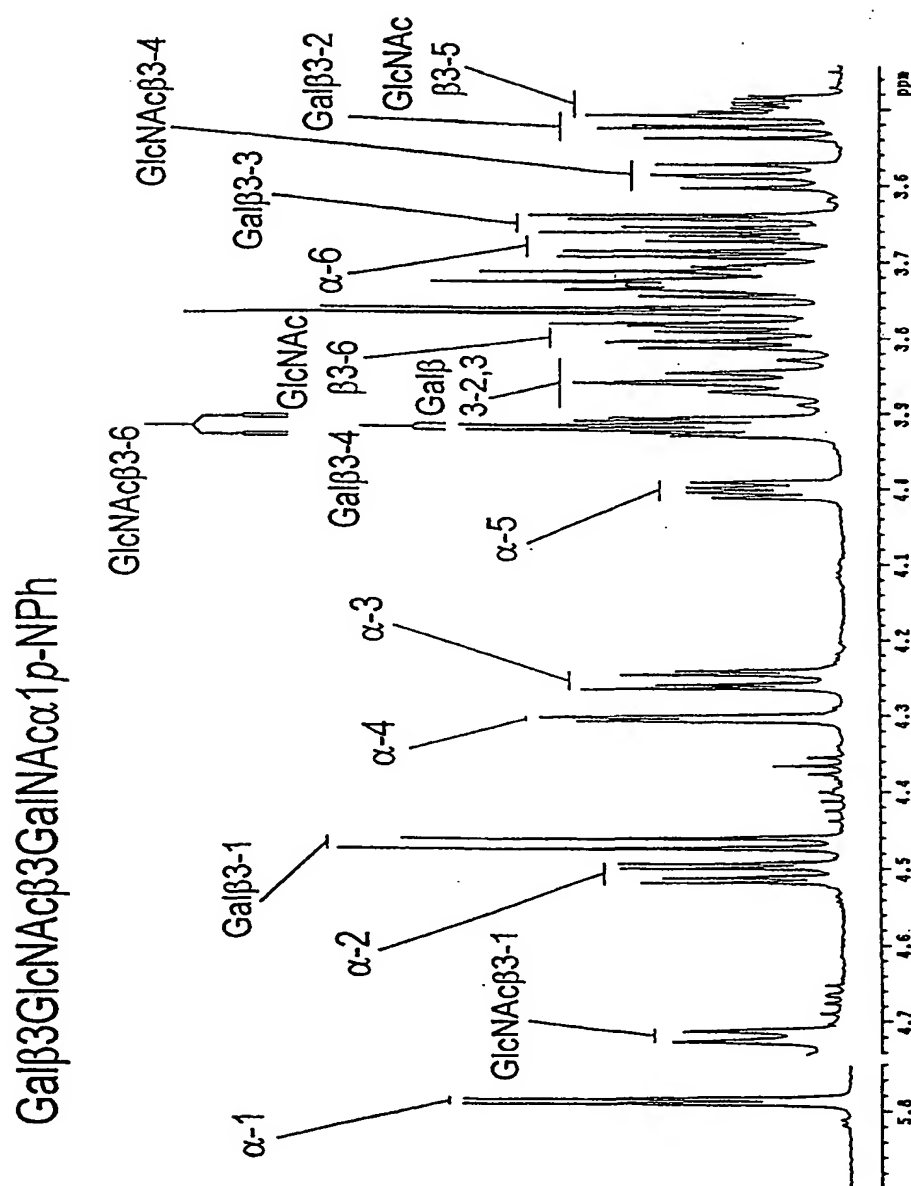


FIGURE 4

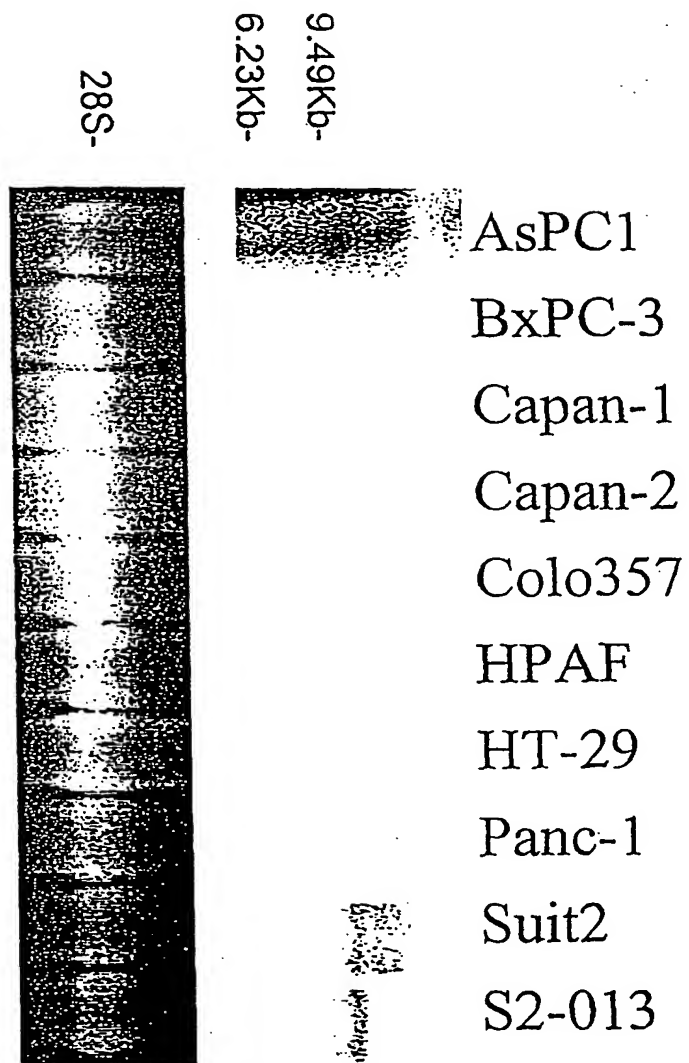


FIGURE 5